

101664,151  
CAS ONLINE PRINTOUT

=> d his

(FILE 'HOME' ENTERED AT 08:49:58 ON 14 DEC 2005)

FILE 'REGISTRY' ENTERED AT 08:50:05 ON 14 DEC 2005

L1	STRUCTURE	UPLOADED
L2	STRUCTURE	UPLOADED
L3	1	S L1
L4	61	S L1 FUL
L5	220	S L2 FUL

FILE 'CAPLUS' ENTERED AT 08:51:20 ON 14 DEC 2005

L6	24 S L4
L7	90 S L5
L8	13 S L7 AND L6
L9	19 S L4/P
L10	10 S L9 AND L7

=> s 15/ract

90 L5  
2803031 RACT/RL  
L11 15 L5/RACT  
                  (L5 (L) RACT/RL)

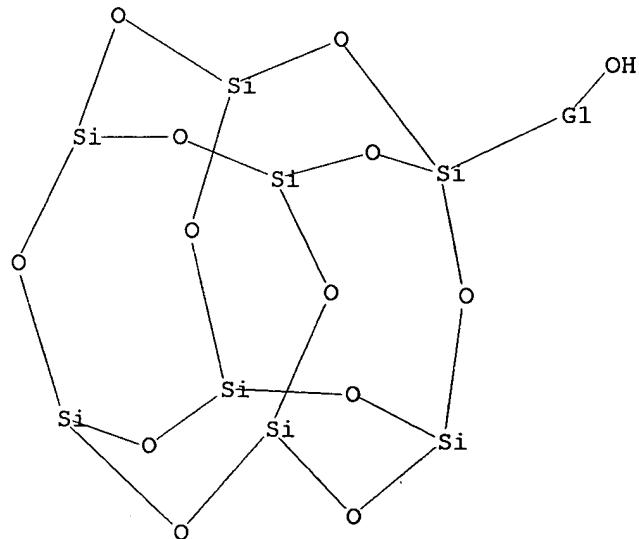
=> s 111 and 19

## L12                    6 L11 AND L9

=> d 11

L1 HAS NO ANSWERS

L1 STR



G1 Cy, Ak

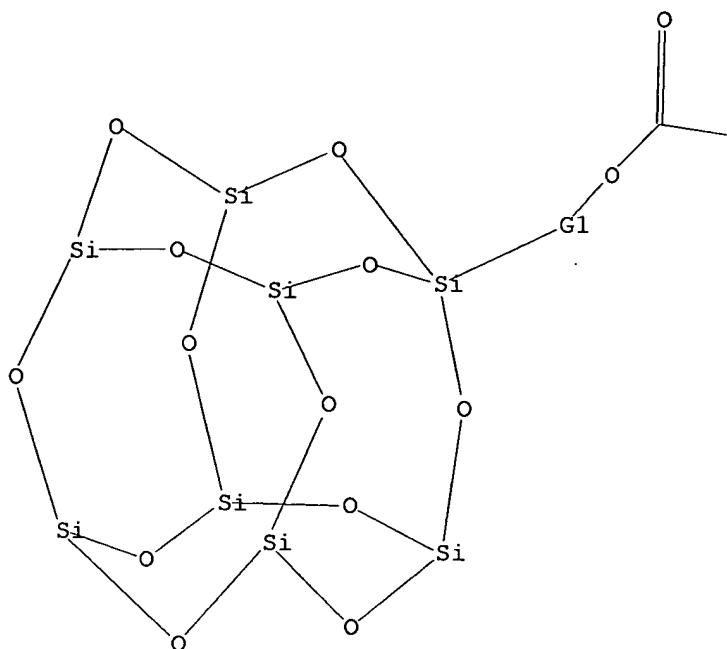
Structure attributes must be viewed using STN Express query preparation.

=> d 12

L2 HAS NO ANSWERS

L2 STR

## CAS ONLINE PRINTOUT



G1 Cy,Ak

Structure attributes must be viewed using STN Express query preparation.

=&gt; d bib abs hitstr 1-6 112

L12 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2005:960092 CAPLUS  
 DN 143:249399  
 TI Diamines bearing silsesquioxanes, and their polymers showing low dielectric constant and optical transmission loss, and their applications  
 IN Kato, Takashi; Okuma, Yasuyuki  
 PA Chisso Corp., Japan  
 SO Jpn. Kokai Tokkyo Koho, 17 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2005232024	A2	20050902	JP 2004-39577	20040217
PRAI JP 2004-39577		20040217		

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB The diamines have 1 or 2 silsesquioxane groups I [X = C1-20 (halo)alkyl, C2-20 (halo)alkenyl, C6-20 (halo)aryl; CH<sub>2</sub> of X may be replaced with O]. Polyamic acids, polyimides, polyamides, and polyamide-polyimides are manufactured from the diamines. The above polymers are useful for insulating, protective, liquid crystal alignment films for optical waveguides,

semiconductor integrated circuits, and liquid crystal displays. Thus, silsesquioxane Na salt II was treated with MeCO<sub>2</sub>CH<sub>2</sub>SiCl<sub>3</sub>, hydrolyzed, treated with 3,5-dinitrobenzoyl chloride, and hydrogenated to give III. 4,4'-(Hexafluoroisopropylidene)diphthalic dianhydride was polymerized with III, diluted with cyclohexane, and cast give a polyimide film showing thermal decomposition temperature 359.9° and dielec. constant 2.59.

IT 863323-79-9P

RL: DEV (Device component use); IMF (Industrial manufacture); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); **RACT (Reactant or reagent)**; USES (Uses)  
(diamines bearing silsesquioxanes for polyimides, polyamides, and polyamide-polyimides showing low dielec. constant and optical transmission loss)

RN 863323-79-9 CAPLUS

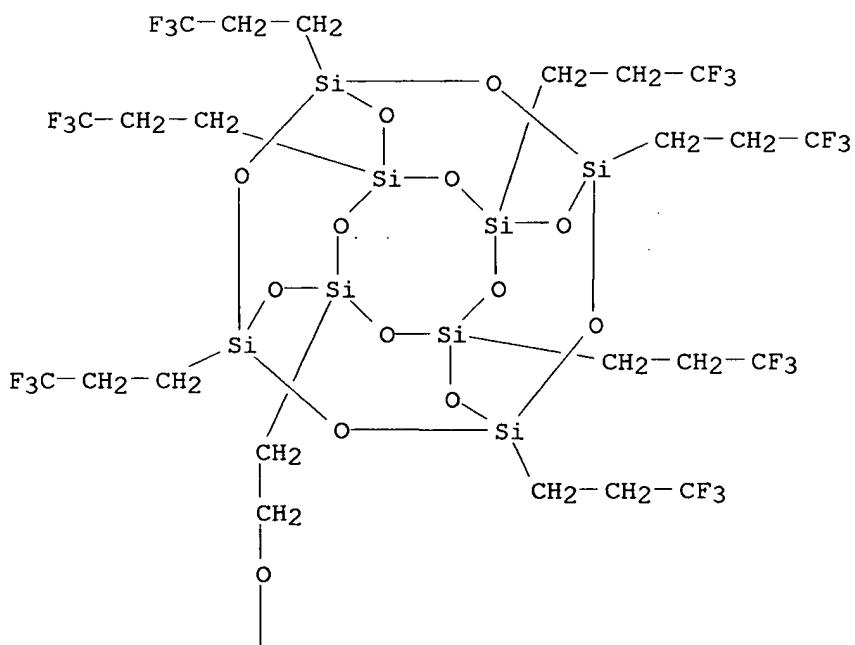
CN Benzoic acid, 2,5-diamino-, 2-[heptakis(3,3,3-trifluoropropyl)pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxanyl]ethyl ester, polymer with 5,5'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[1,3-isobenzofurandione] (9CI) (CA INDEX NAME)

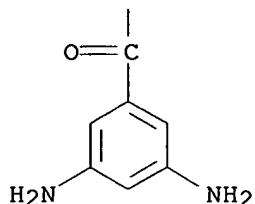
CM 1

CRN 863323-78-8

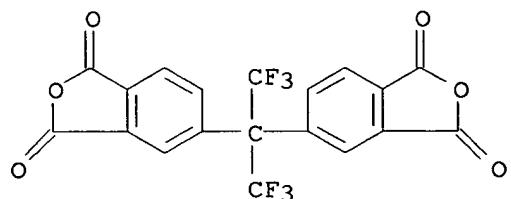
CMF C30 H39 F21 N2 O14 Si8

PAGE 1-A

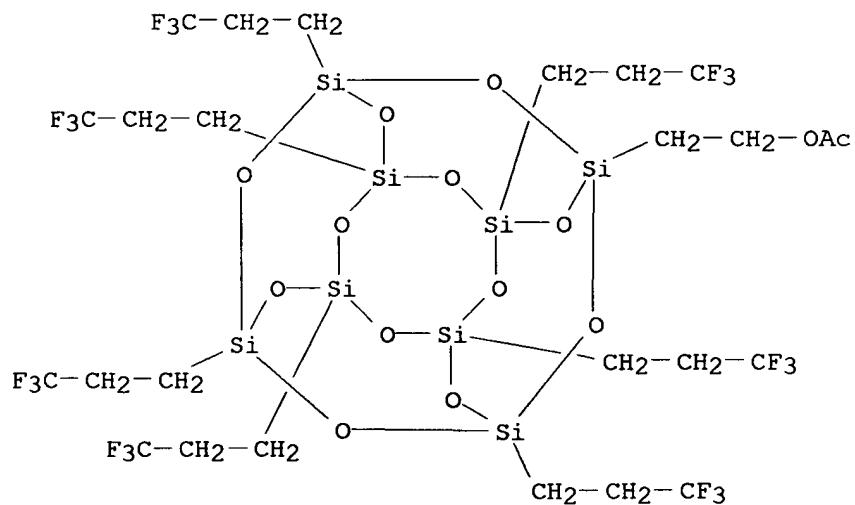




CM 2

CRN 1107-00-2  
CMF C19 H6 F6 O6

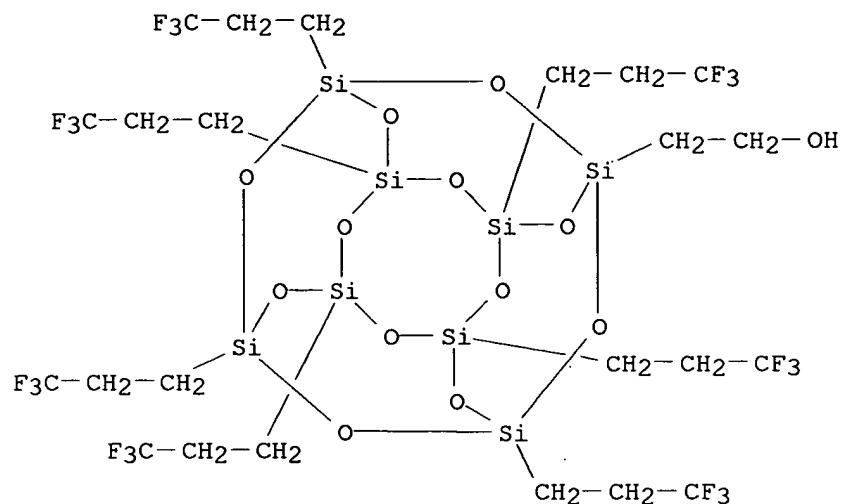
IT 757199-00-1P 757199-24-9P 863323-77-7P  
863323-78-8P  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation);  
**RACT (Reactant or reagent)**  
(diamines bearing silsesquioxanes for polyimides, polyamides, and  
polyamide-polyimides showing low dielec. constant and optical  
transmission loss)  
RN 757199-00-1 CAPLUS  
CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxaneethanol,  
3,5,7,9,11,13,15-heptakis(3,3,3-trifluoropropyl)-, acetate (9CI) (CA  
INDEX NAME)



RN 757199-24-9 CAPLUS

CAS ONLINE PRINTOUT

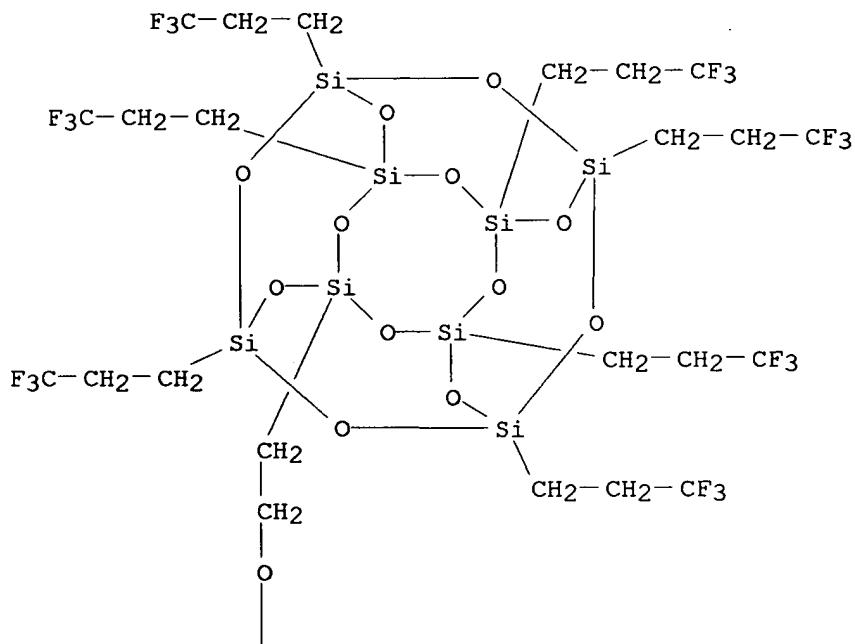
CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxaneethanol,  
3,5,7,9,11,13,15-heptakis(3,3,3-trifluoropropyl)- (9CI) (CA INDEX NAME)

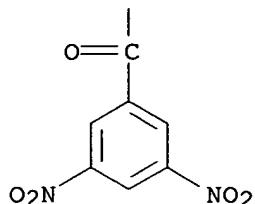


RN 863323-77-7 CAPLUS

CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxaneethanol,  
3,5,7,9,11,13,15-heptakis(3,3,3-trifluoropropyl)-, 3,5-dinitrobenzoate  
(9CI) (CA INDEX NAME)

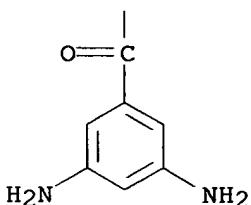
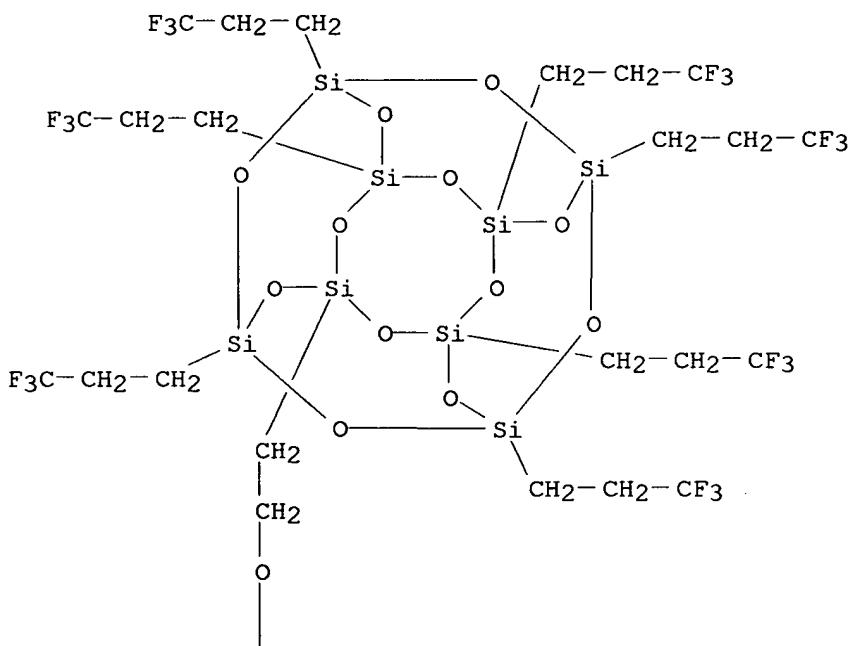
PAGE 1-A





RN 863323-78-8 CAPLUS

CN Benzoic acid, 3,5-diamino-, 2-[heptakis(3,3,3-trifluoropropyl)pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxanyl]ethyl ester (9CI) (CA INDEX NAME)



L12 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2005:71629 CAPLUS

DN 142:336699

TI Precision Synthesis of a Fluorinated Polyhedral Oligomeric

Silsesquioxane-Terminated Polymer and Surface Characterization of Its Blend Film with Poly(methyl methacrylate)

AU Koh, Kyoungmoo; Sugiyama, Satoshi; Morinaga, Takashi; Ohno, Kohji; Tsujii, Yoshinobu; Fukuda, Takeshi; Yamahiro, Mikio; Iijima, Takashi; Oikawa, Hisao; Watanabe, Kenichi; Miyashita, Tokuji

CS Institute for Chemical Research, Kyoto University, Uji, Kyoto, 611-0011, Japan

SO Macromolecules (2005), 38(4), 1264-1270

CODEN: MAMOBX; ISSN: 0024-9297

PB American Chemical Society

DT Journal

LA English

AB Incompletely condensed, fluorinated polyhedral oligomeric silsesquioxane with the highly reactive group of trisodium silanolate was used for the synthesis of an initiator for atom transfer radical polymerization. The initiator

was applied to solution polymerization of Me methacrylate (MMA) in the presence of a

copper complex. The polymerization proceeded in a living fashion, providing tadpole-shaped polymers with an "inorg. head" of polyhedral oligomeric silsesquioxane (POSS) and an "organic tail" of well-defined PMMA. A blend film composed of the tadpole-shaped polymer and a matrix PMMA was annealed at 180 °C for 5 days and then analyzed by neutron reflectometry, XPS, and contact angle measurement. These analyses revealed that the tadpole-shaped polymer was preferentially populated at the air/polymer interface, and the outermost layer of the film was almost completely covered by the POSS heads. This was mainly due to the low surface free energy of the fluorinated POSS moiety. Owing to this unique structure, the blend film showed strong resistance against Ar+ ion etching, despite the overall POSS content was only 2 wt %.

IT 757199-58-9P

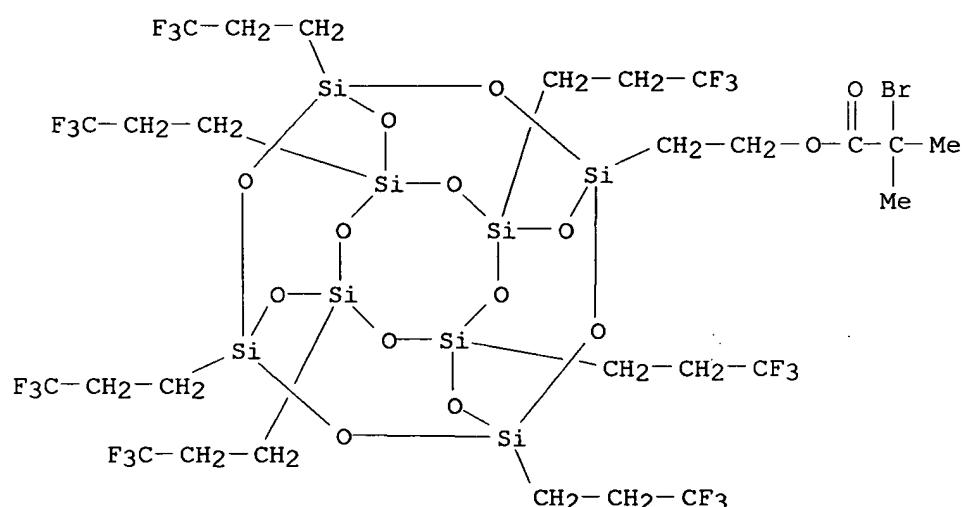
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);

**RACT (Reactant or reagent)**

(initiator for ATRP; precision synthesis of fluorinated polyhedral oligomeric silsesquioxane-terminated polymer and surface characterization of its blend film with poly(Me methacrylate))

RN 757199-58-9 CAPLUS

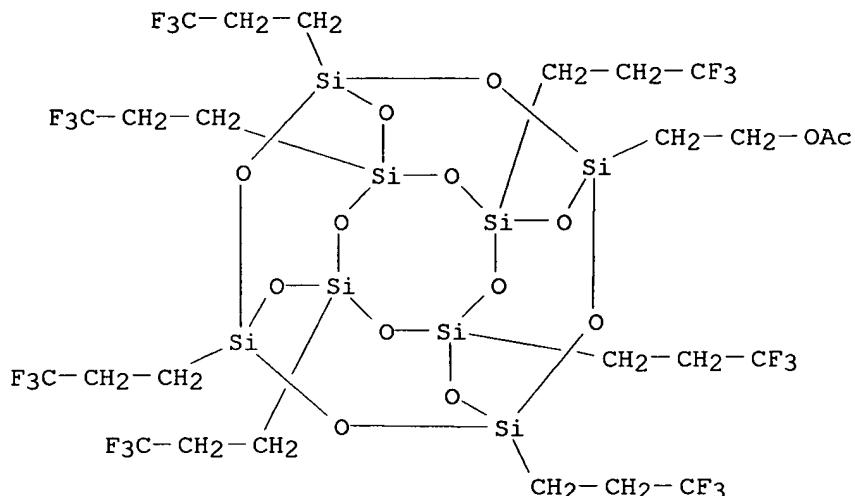
CN Propanoic acid, 2-bromo-2-methyl-, 2-[3,5,7,9,11,13,15-heptakis(3,3,3-trifluoropropyl)pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxanyl]ethyl ester (9CI) (CA INDEX NAME)



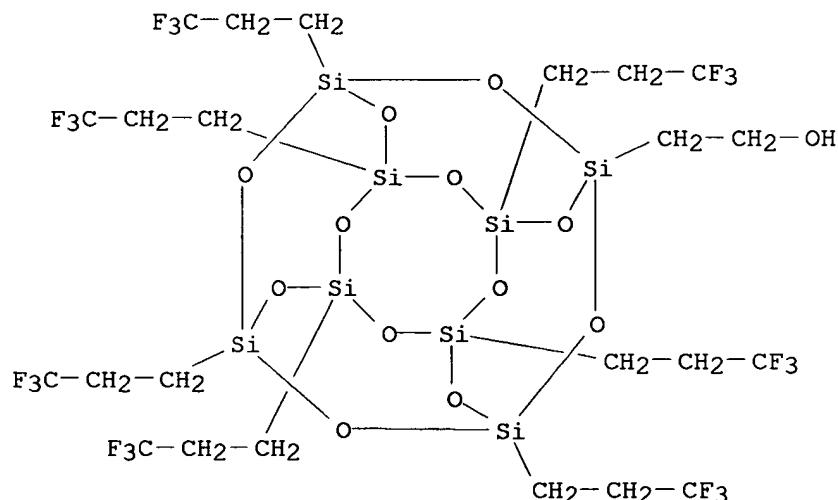
IT 757199-00-1P 757199-24-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);  
RACT (Reactant or reagent)(intermediate in preparation of initiator; precision synthesis of  
fluorinated polyhedral oligomeric silsesquioxane-terminated polymer and  
surface characterization of its blend film with poly(Me methacrylate))

RN 757199-00-1 CAPLUS

CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxaneethanol,  
3,5,7,9,11,13,15-heptakis(3,3,3-trifluoropropyl)-, acetate (9CI) (CA  
INDEX NAME)

RN 757199-24-9 CAPLUS

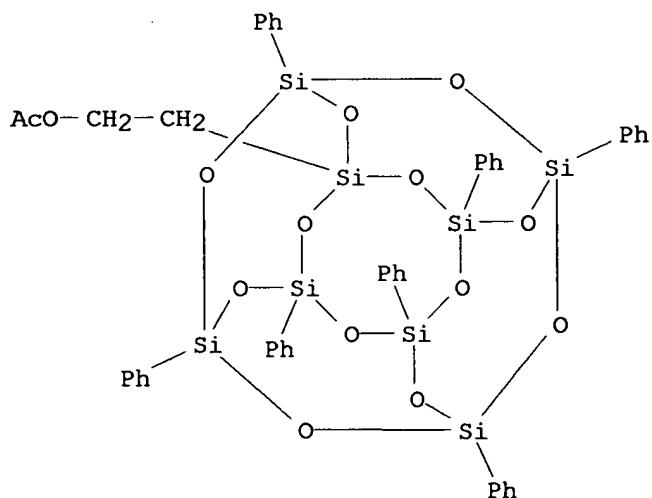
CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxaneethanol,  
3,5,7,9,11,13,15-heptakis(3,3,3-trifluoropropyl)- (9CI) (CA INDEX NAME)

RE.CNT 65

THERE ARE 65 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

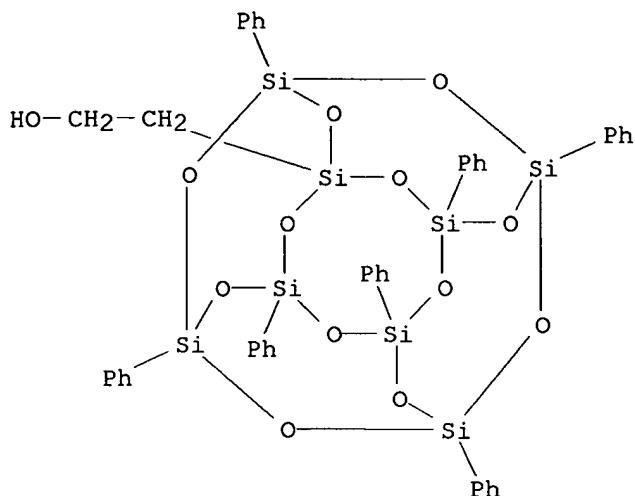
## CAS ONLINE PRINTOUT

L12 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2004:874865 CAPLUS  
 DN 142:56733  
 TI Living Radical Polymerization by Polyhedral Oligomeric Silsesquioxane-Holding Initiators: Precision Synthesis of Tadpole-Shaped Organic/Inorganic Hybrid Polymers  
 AU Ohno, Kohji; Sugiyama, Satoshi; Koh, Kyoungmoo; Tsujii, Yoshinobu; Fukuda, Takeshi; Yamahiro, Mikio; Oikawa, Hisao; Yamamoto, Yasuhiro; Ootake, Nobumasa; Watanabe, Kenichi  
 CS Institute for Chemical Research, Kyoto University, Uji, Kyoto, 611-0011, Japan  
 SO Macromolecules (2004), 37(23), 8517-8522  
 CODEN: MAMOBX; ISSN: 0024-9297  
 PB American Chemical Society  
 DT Journal  
 LA English  
 AB Incompletely condensed polyhedral oligomeric silsesquioxane (POSS) with the highly reactive group of trisodium silanolate was used for the synthesis of two initiators for atom transfer radical polymerization, one with  
 a 2-bromoisobutyl group and the other with a chlorosulfonyl group. These initiators were applied to solution polymers of styrene and Me methacrylate in the presence of a copper complex. In both systems, polymerization proceeded in a living fashion, as indicated by the first-order kinetics of monomer consumption, the evolution of mol. weight in direct proportion to monomer conversion, the good agreement of mol. weight with the theor. one, and the low polydispersity, thus providing tadpole-shaped polymers with an "inorg. head" of POSS and an "organic tail" of well-defined polymer. Thermogravimetric and differential scanning calorimetric studies showed that both thermal degradation and glass transition temps. of the organic/inorg. hybrid polymers with mol. wts. up to about 20 000 were enhanced as compared to those of model polymers without the POSS moiety.  
 IT 757198-90-6P 757199-15-8P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);  
**RACT (Reactant or reagent)**  
 (in preparation of living radical polymerization polyhedral oligomeric silsesquioxane-holding initiators)  
 RN 757198-90-6 CAPLUS  
 CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxaneethanol,  
 3,5,7,9,11,13,15-heptaphenyl-, acetate (9CI) (CA INDEX NAME)



## CAS ONLINE PRINTOUT

RN 757199-15-8 CAPLUS

CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxaneethanol,  
3,5,7,9,11,13,15-heptaphenyl- (9CI) (CA INDEX NAME)RE.CNT 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12	ANSWER 4 OF 6 CAPLUS	COPYRIGHT 2005 ACS on STN	<i>Applicant's work</i>
AN	2004:816588 CAPLUS		
DN	141:315093		
TI	Hydroxy-containing T8-silsesquioxane cage compounds and their manufacture		
IN	Yamahiro, Mikio; Oikawa, Hisao; Ito, Masaya; Tanaka, Masami; Otake, Nobumasa; Watanabe, Kenichi		
PA	Chisso Corp., Japan		
SO	Jpn. Kokai Tokkyo Koho, 90 pp.		
	CODEN: JKXXAF		
DT	Patent		
LA	Japanese		
FAN.CNT 1			
	PATENT NO.	KIND	DATE
PI	JP 2004277401	A2	20041007
	US 2005033077	A1	20050210
PRAI	JP 2002-270430	A	20020917
	JP 2003-53144	A	20030228
OS	MARPAT 141:315093		
GI			

*Instant Application*

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Title compds. I [R<sub>1</sub> = H, (ether-containing) (fluoro)alkyl, (fluoro)alkenyl, (un)substituted aryl, (un)substituted aralkyl; A<sub>1</sub> = OH-terminated organic group], useful as thermoplastic modifiers, interlayer insulation films, sealants, coatings, fireproofing agents, etc. (no data), are manufactured from I (A<sub>1</sub> = acyloxy-containing organic group). Thus, Ph silsesquioxane Na salt II was treated with Cl<sub>3</sub>SiC<sub>2</sub>H<sub>4</sub>OAc in THF at room temperature for 2 h to give 65.9%

CAS ONLINE PRINTOUT

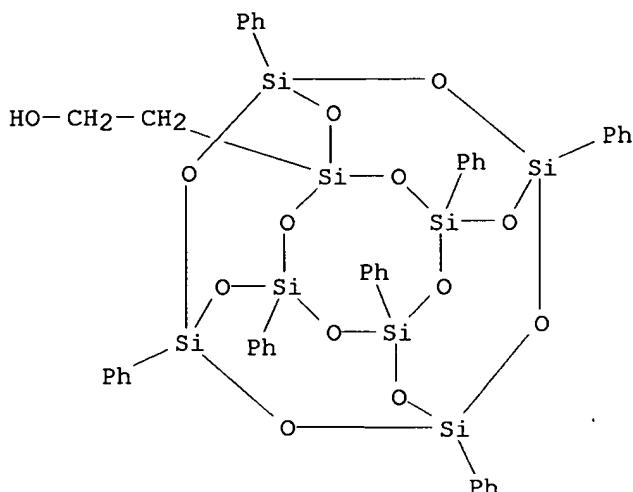
(R1 = Ph, A1 = C<sub>2</sub>H<sub>4</sub>OAc), which was transesterified with MeOH in CHCl<sub>3</sub> in the presence of H<sub>2</sub>SO<sub>4</sub> at room temperature for 72 h to give 91.7% I (R1 = Ph, A1 = C<sub>2</sub>H<sub>4</sub>OH).

IT 757199-15-8P 757199-24-9P 757199-26-1P

RL: IMF (Industrial manufacture); PREP (Preparation)  
(manufacture of hydroxy-containing T<sub>8</sub>-silsesquioxane cage compds. via acyloxy-containing silsesquioxanes)

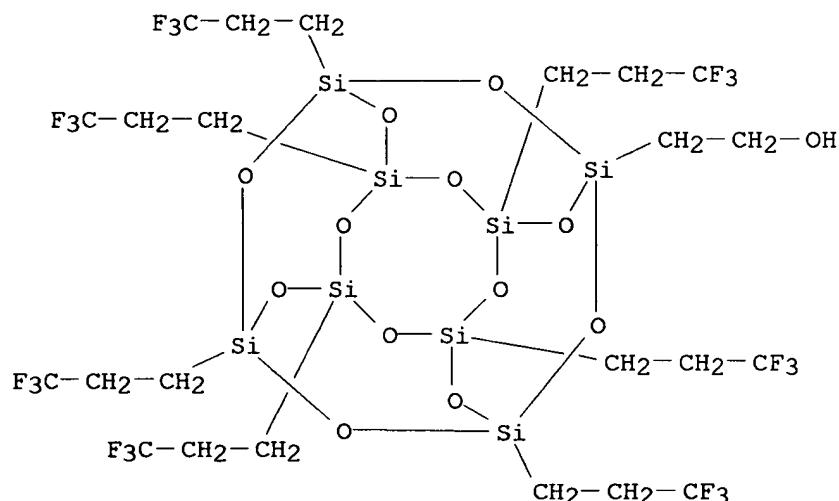
RN 757199-15-8 CAPLUS

CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxaneethanol,  
3,5,7,9,11,13,15-heptaphenyl- (9CI) (CA INDEX NAME)



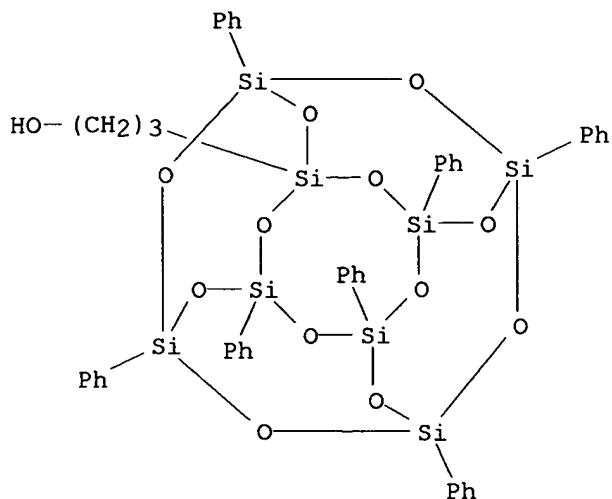
RN 757199-24-9 CAPLUS

CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxaneethanol,  
3,5,7,9,11,13,15-heptakis(3,3,3-trifluoropropyl)- (9CI) (CA INDEX NAME)



RN 757199-26-1 CAPLUS

CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxanopropanol,  
3,5,7,9,11,13,15-heptaphenyl- (9CI) (CA INDEX NAME)



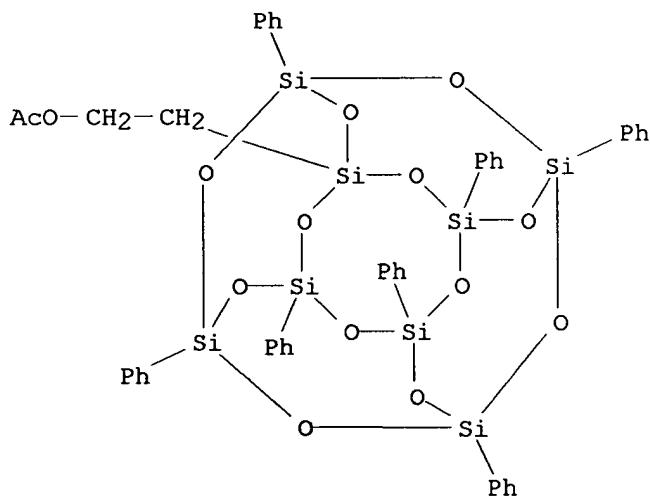
IT 757198-90-6P 757199-00-1P 757199-03-4P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation);

**RACT (Reactant or reagent)**

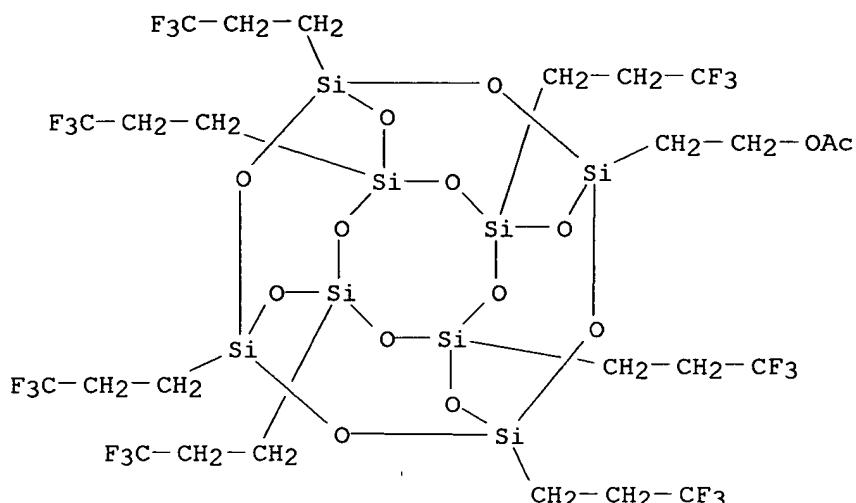
(manufacture of hydroxy-containing T8-silsesquioxane cage compds. via acyloxy-containing silsesquioxanes)

RN 757198-90-6 CAPLUS

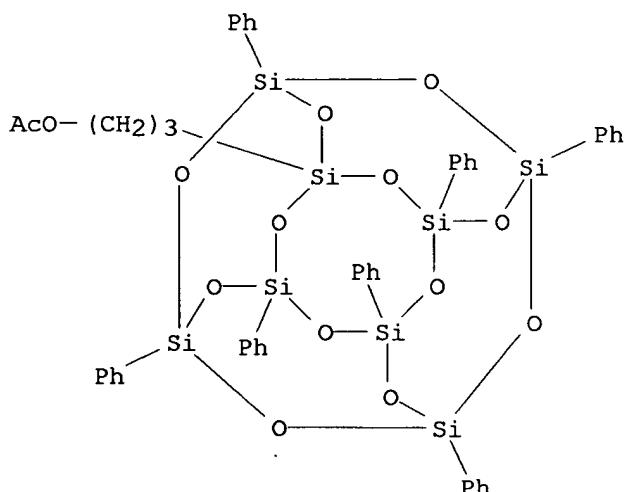
CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxaneethanol,  
3,5,7,9,11,13,15-heptaphenyl-, acetate (9CI) (CA INDEX NAME)

RN 757199-00-1 CAPLUS

CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxaneethanol,  
3,5,7,9,11,13,15-heptakis(3,3,3-trifluoropropyl)-, acetate (9CI) (CA INDEX NAME)

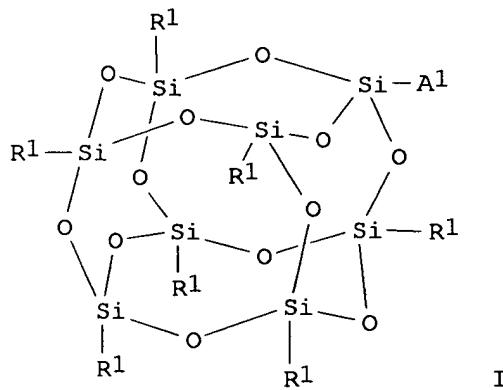


RN 757199-03-4 CAPLUS  
 CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxanepropanol,  
 3,5,7,9,11,13,15-heptaphenyl-, acetate (9CI) (CA INDEX NAME)



L12 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2004:756725 CAPLUS  
 DN 141:278049  
 TI Silicone compds. having polymerization initiator capability to additional polymerizable monomers  
 IN Yamahiro, Mikio; Oikawa, Hisao; Ito, Kenya; Yamamoto, Yasuhiro; Tanaka, Masami; Ootake, Nobumasa; Watanabe, Kenichi; Ohno, Kohji; Tsujii, Yoshinobu; Fukuda, Takeshi  
 PA Chisso Corporation, Japan  
 SO PCT Int. Appl., 142 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA Japanese  
 FAN.CNT 1  
 PATENT NO.                    KIND                    DATE                    APPLICATION NO.                    DATE

PI	WO 2004078767	A1	20040916	WO 2004-JP2809	20040305
	W: AE, AE, AG, AL, AL, AM, AM, AM, AT, AT, AU, AZ, AZ, BA, BB, BG, BG, BR, BR, BW, BY, BY, BZ, BZ, CA, CH, CN, CN, CO, CO, CR, CR, CU, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EC, EC, EE, EE, EG, ES, ES, FI, FI, GB, GD, GE, GE, GH, GM, HR, HR, HU, HU, ID, IL, IN, IS, JP, JP, KE, KE, KG, KG, KP, KP, KR, KR, KZ, KZ, LC, LK, LR, LS, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MX, MZ, MZ, NA, NI RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRAI	JP 2003-62135	A	20030307		
OS	MARPAT 141:278049				
GI					



AB The invention provides silicone compds. I and polymers made by using the same, which brings about organic-inorg. composite materials having definite structures and makes it possible to control the structure of the polymers as mol. aggregate, wherein R1 = independently H, C1-40 alkyl, (un)substituted aryl, and (un)substituted arylalkyl (any hydrogen may be replaced by fluorine in C1-40 alkyl and CH2 group may be replaced by O, CH:CH, cycloalkylene, or cycloalkenylene and any hydrogen may be replaced by fluorine in alkylene of arylalkyl and any CH2 group may be replaced by O or CH:CH in arylalkylene) and Al = an  $\alpha$ -halo ester linkage-containing group. Thus, 211.5 g trichlorosilane was reacted, sodium hydroxide was added therein and reacted, 2-acetoxyethyltrichlorosilane was added therein and reacted, methanolized, and reacted with 2-bromo-2-methylpropionyl bromide to give 2-bromo-2-methylpropionyloxyethyl-heptaphenoxyoctasilsesquioxane, 1 mol of which was mixed with styrene 500, L-(-)sparteine 1, and copper(I) bromide 1 mol in di-Ph ether and polymerized at 110° for 1 h to give a polymer with Mn 3700 and polydispersity 1.14.

IT 244096-50-2P 352538-66-0P 681235-70-1P  
757198-90-6P 757198-92-8P 757198-94-0P  
757198-96-2P 757198-98-4P 757199-00-1P  
757199-03-4P 757199-05-6P 757199-07-8P  
757199-09-0P 757199-11-4P 757199-13-6P

CAS ONLINE PRINTOUT

757199-15-8P 757199-17-0P 757199-19-2P  
757199-22-7P 757199-24-9P 757199-26-1P  
757199-28-3P 757199-31-8P 757199-34-1P  
757199-40-9P 757199-42-1P 757199-44-3P  
757199-46-5P 757212-06-9P 757212-07-0P  
757212-08-1P 757212-09-2P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation);

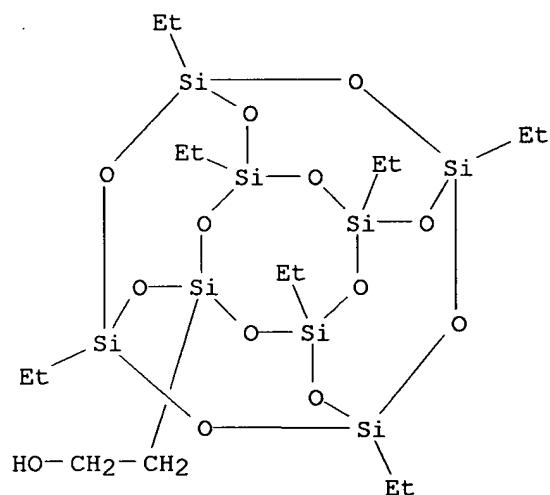
RACT (Reactant or reagent)

(intermediate; preparation of silicone compds. having polymerization initiator

capability to addnl. polymerizable monomers)

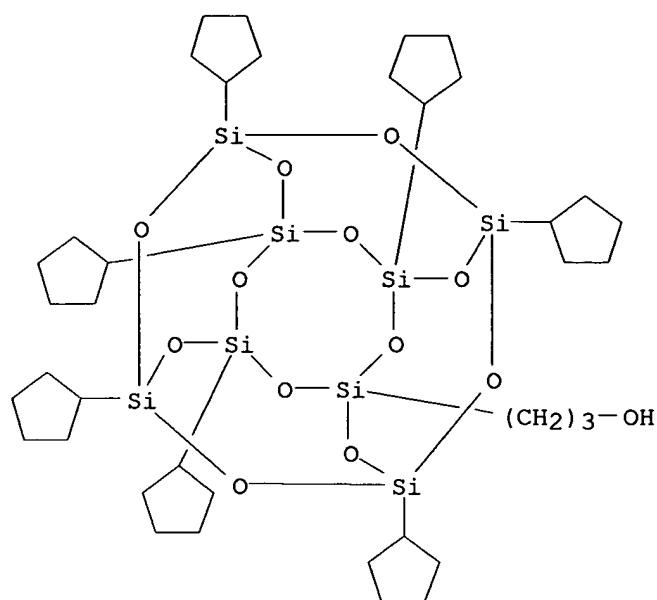
RN 244096-50-2 CAPLUS

CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxaneethanol,  
3,5,7,9,11,13,15-heptaethyl- (9CI) (CA INDEX NAME)



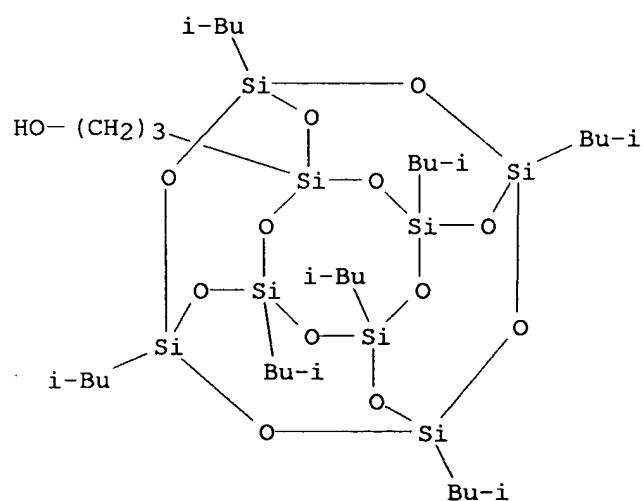
RN 352538-66-0 CAPLUS

CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxanopropanol,  
3,5,7,9,11,13,15-heptacyclopentyl- (9CI) (CA INDEX NAME)



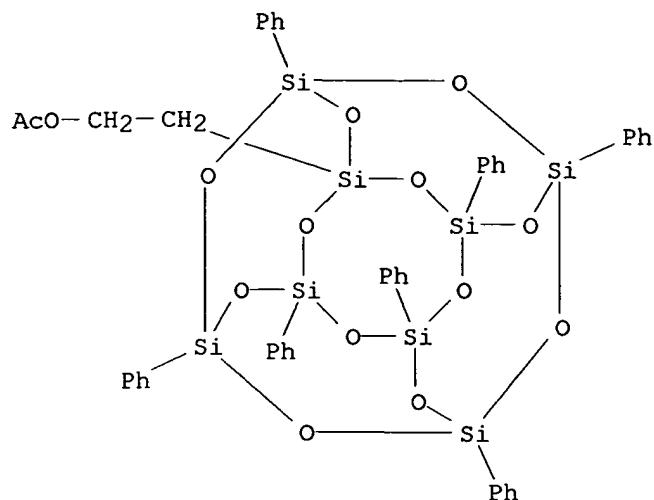
RN 681235-70-1 CAPLUS

CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxane propanol,  
3,5,7,9,11,13,15-heptakis(2-methylpropyl)- (9CI) (CA INDEX NAME)



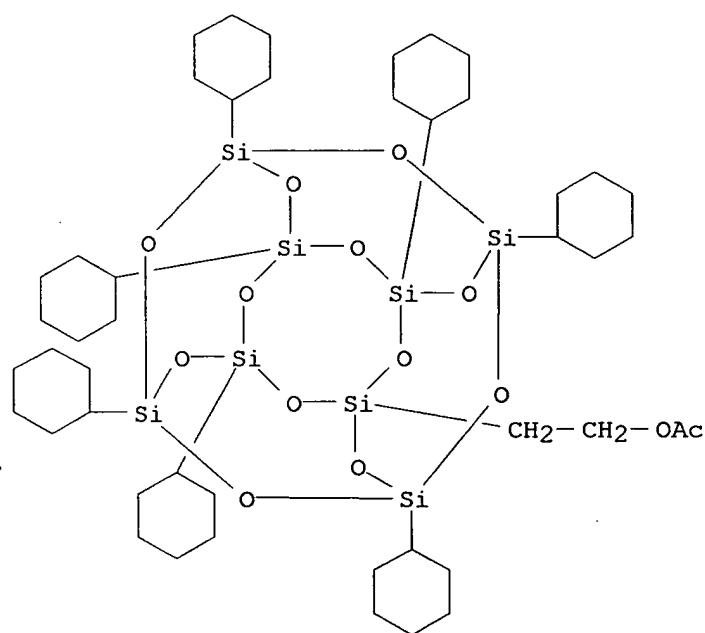
RN 757198-90-6 CAPLUS

CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxaneethanol,  
3,5,7,9,11,13,15-heptaphenyl-, acetate (9CI) (CA INDEX NAME)



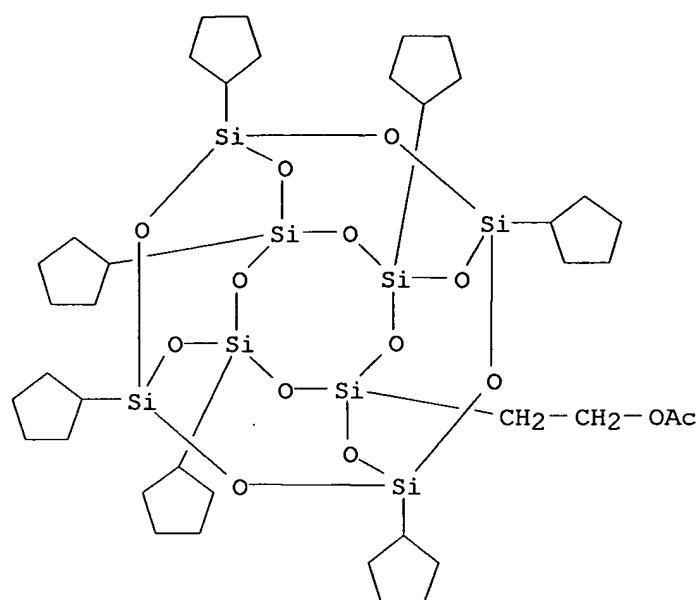
RN 757198-92-8 CAPLUS

CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxaneethanol,  
3,5,7,9,11,13,15-heptacyclohexyl-, acetate (9CI) (CA INDEX NAME)



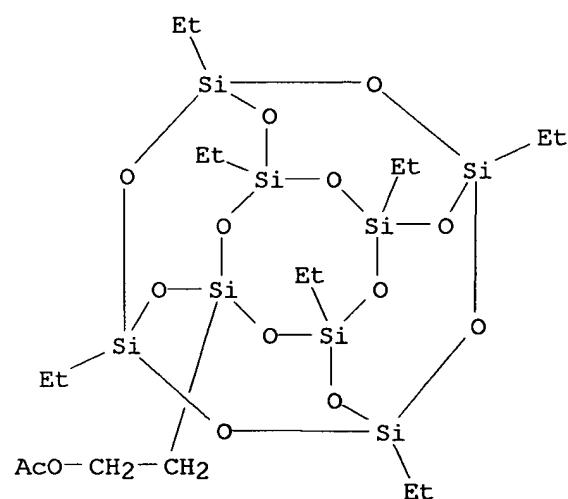
RN 757198-94-0 CAPLUS

CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxaneethanol,  
3,5,7,9,11,13,15-heptacyclopentyl-, acetate (9CI) (CA INDEX NAME)



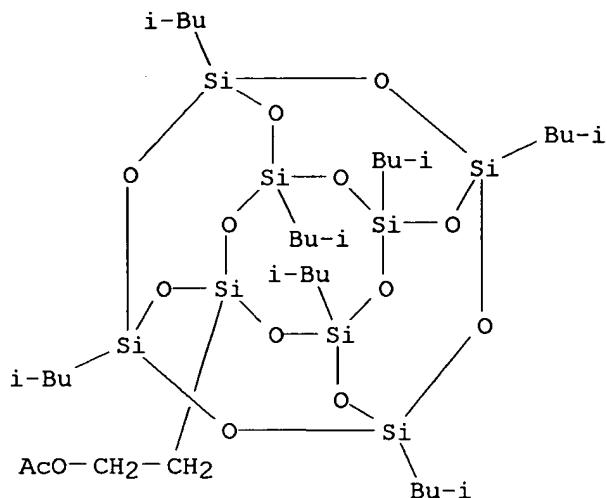
RN 757198-96-2 CAPLUS

CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxaneethanol,  
3,5,7,9,11,13,15-heptaethyl-, acetate (9CI) (CA INDEX NAME)

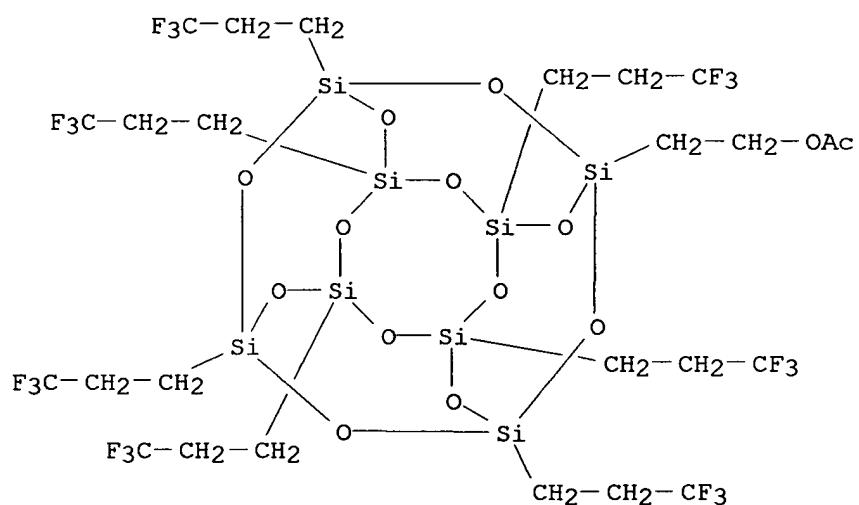


RN 757198-98-4 CAPLUS

CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxaneethanol,  
3,5,7,9,11,13,15-heptakis(2-methylpropyl)-, acetate (9CI) (CA INDEX NAME)

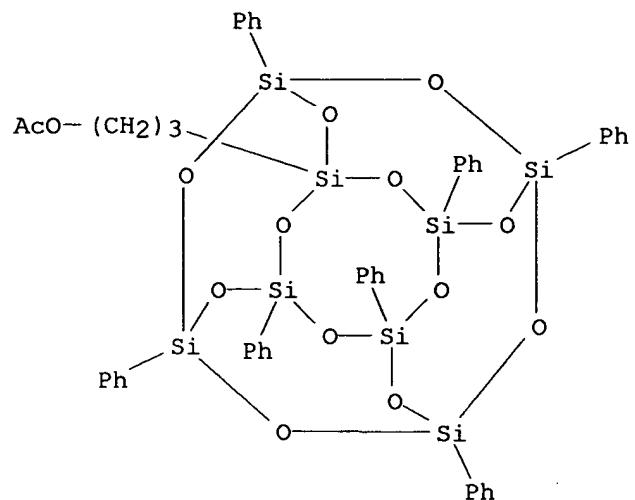


RN 757199-00-1 CAPLUS

CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxaneethanol,  
3,5,7,9,11,13,15-heptakis(3,3,3-trifluoropropyl)-, acetate (9CI) (CA  
INDEX NAME)

RN 757199-03-4 CAPLUS

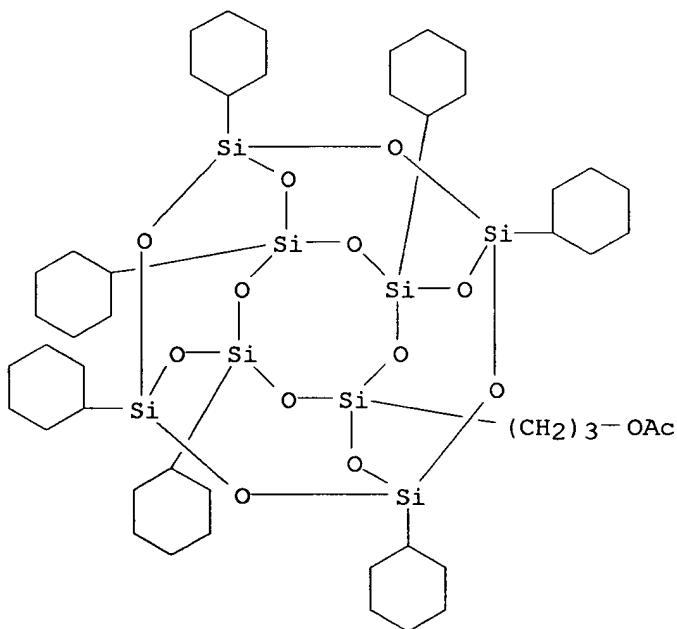
CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxanepropanol,  
3,5,7,9,11,13,15-heptaphenyl-, acetate (9CI) (CA INDEX NAME)



RN 757199-05-6 CAPLUS

CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxanepropanol,  
3,5,7,9,11,13,15-heptacyclohexyl-, acetate (9CI) (CA INDEX NAME)

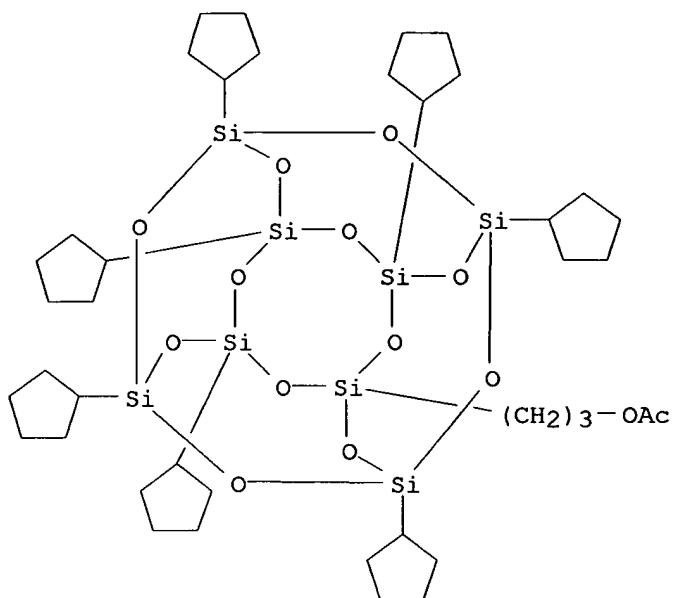
PAGE 1-A



PAGE 2-A

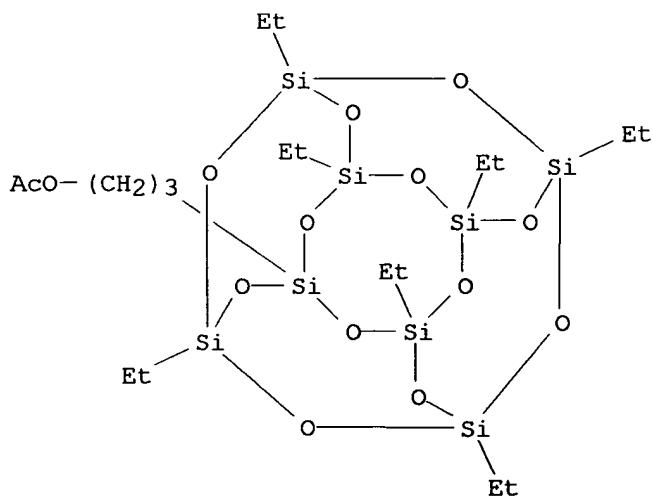
RN 757199-07-8 CAPLUS

CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxanepropanol,  
3,5,7,9,11,13,15-heptacyclopentyl-, acetate (9CI) (CA INDEX NAME)



RN 757199-09-0 CAPLUS

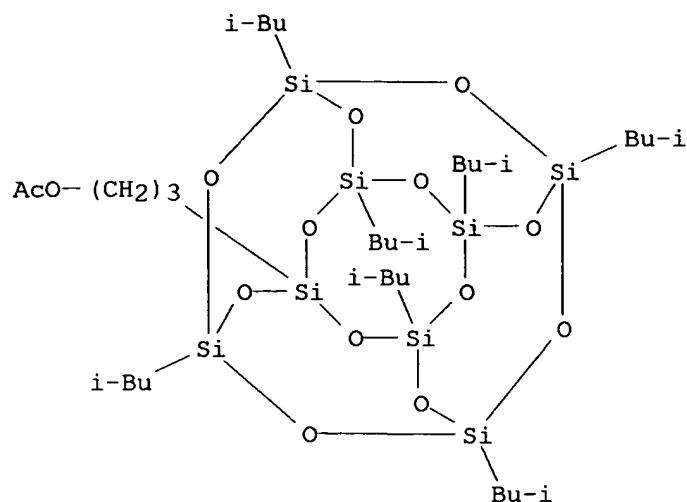
CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxanepropanol,  
3,5,7,9,11,13,15-heptaethyl-, acetate (9CI) (CA INDEX NAME)



RN 757199-11-4 CAPLUS

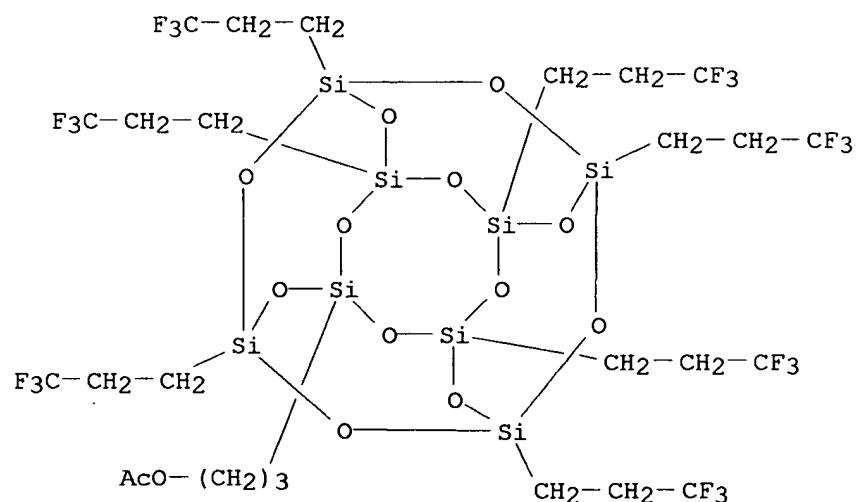
CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxanepropanol,  
3,5,7,9,11,13,15-heptakis(2-methylpropyl)-, acetate (9CI) (CA INDEX NAME)

CAS ONLINE PRINTOUT



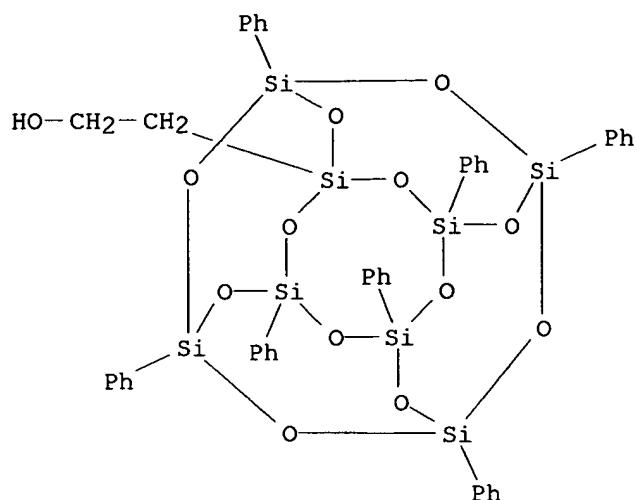
RN 757199-13-6 CAPLUS

CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxane propanol,  
3,5,7,9,11,13,15-heptakis(3,3,3-trifluoropropyl)-, acetate (9CI) (CA  
INDEX NAME)



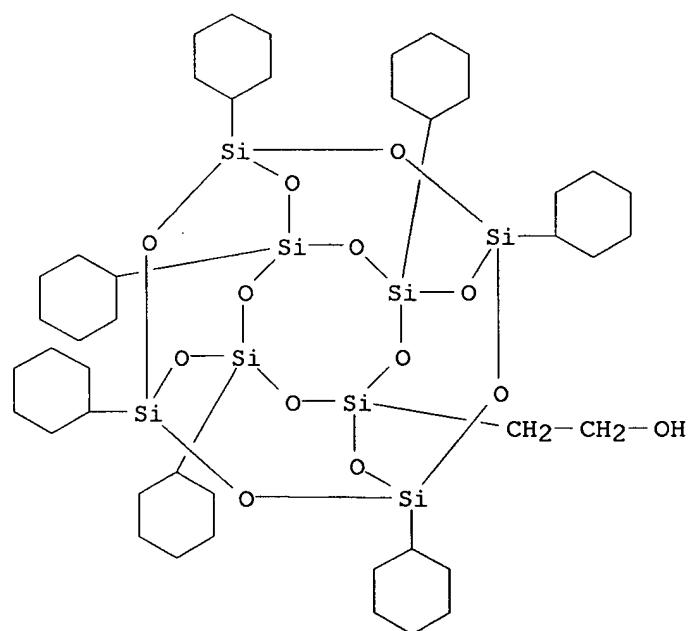
RN 757199-15-8 CAPLUS

CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxane ethanol,  
3,5,7,9,11,13,15-heptaphenyl- (9CI) (CA INDEX NAME)



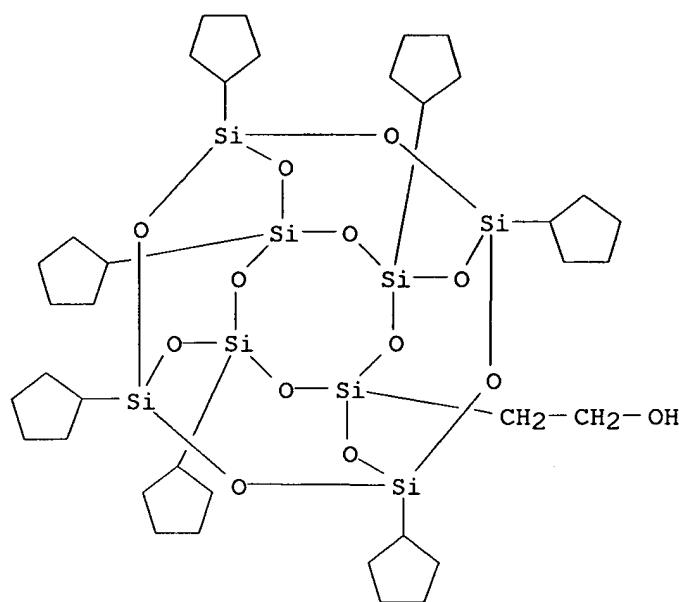
RN 757199-17-0 CAPLUS

CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxaneethanol,  
3,5,7,9,11,13,15-heptacyclohexyl- (9CI) (CA INDEX NAME)



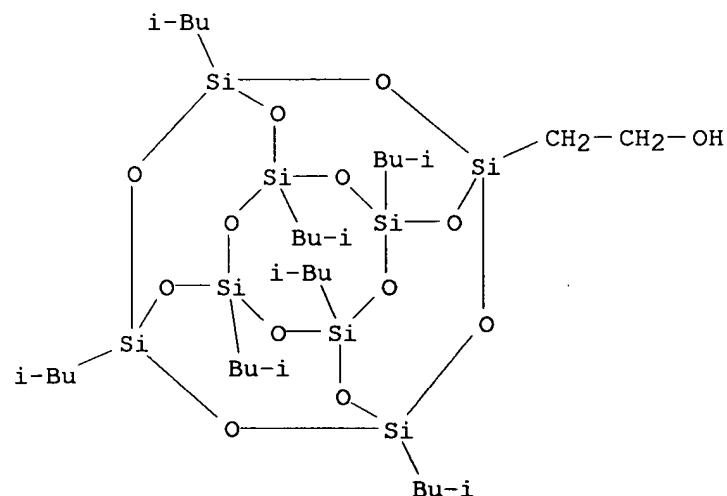
RN 757199-19-2 CAPLUS

CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxaneethanol,  
3,5,7,9,11,13,15-heptacyclopentyl- (9CI) (CA INDEX NAME)



RN 757199-22-7 CAPLUS

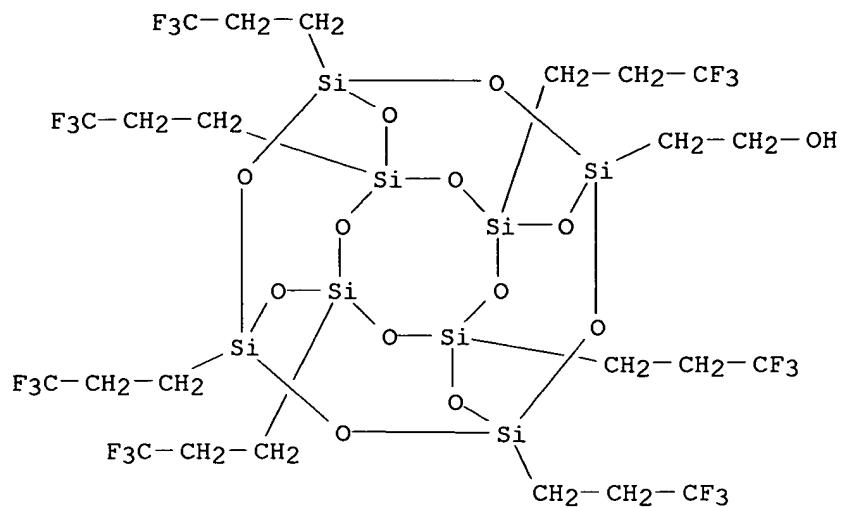
CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxaneethanol,  
3,5,7,9,11,13,15-heptakis(2-methylpropyl)- (9CI) (CA INDEX NAME)



RN 757199-24-9 CAPLUS

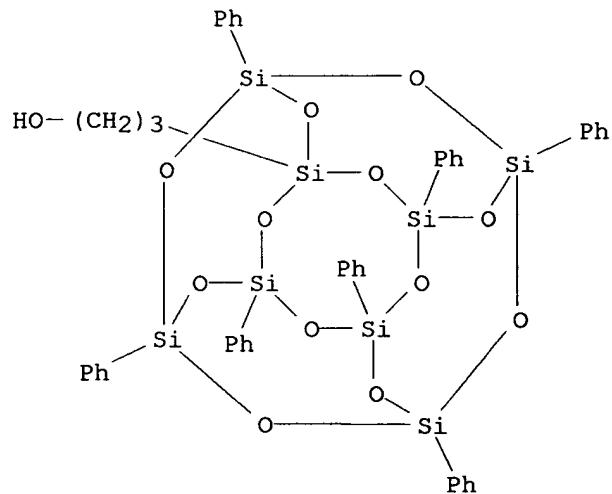
CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxaneethanol,  
3,5,7,9,11,13,15-heptakis(3,3,3-trifluoropropyl)- (9CI) (CA INDEX NAME)

CAS ONLINE PRINTOUT



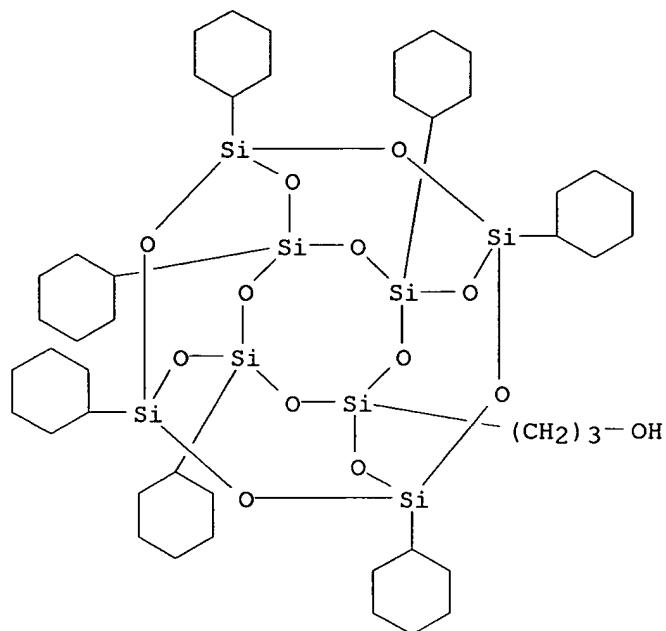
RN 757199-26-1 CAPLUS

CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxanepropanol,  
3,5,7,9,11,13-heptaphenyl- (9CI) (CA INDEX NAME)

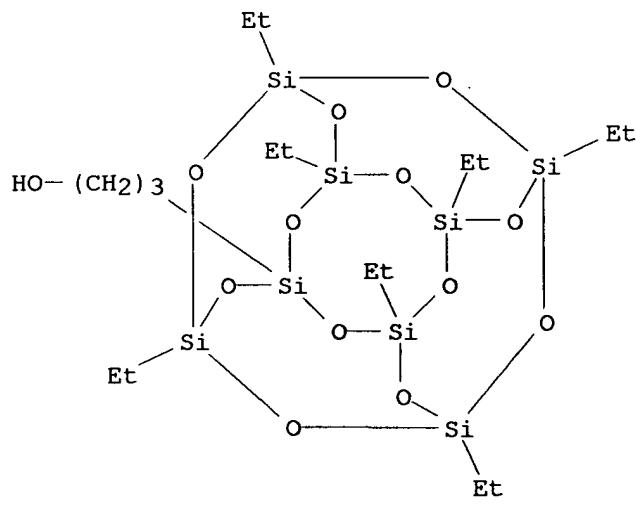


RN 757199-28-3 CAPLUS

CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxanepropanol,  
3,5,7,9,11,13-heptacyclohexyl- (9CI) (CA INDEX NAME)

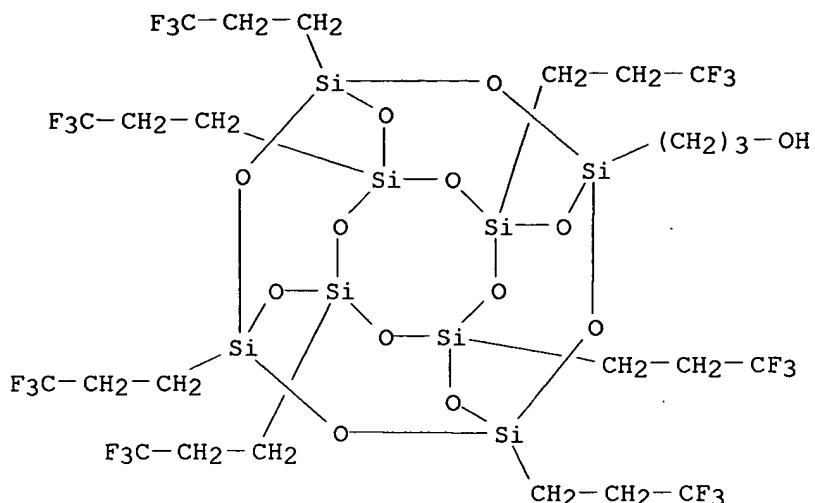


RN 757199-31-8 CAPLUS

CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxane propanol,  
3,5,7,9,11,13,15-heptaethyl- (9CI) (CA INDEX NAME)

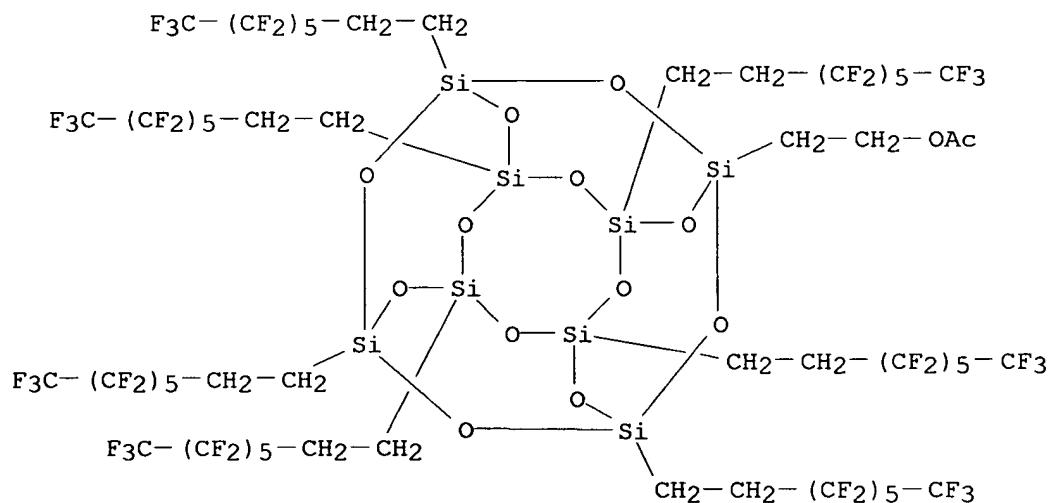
RN 757199-34-1 CAPLUS

CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxane propanol,  
3,5,7,9,11,13,15-heptakis(3,3,3-trifluoropropyl)- (9CI) (CA INDEX NAME)



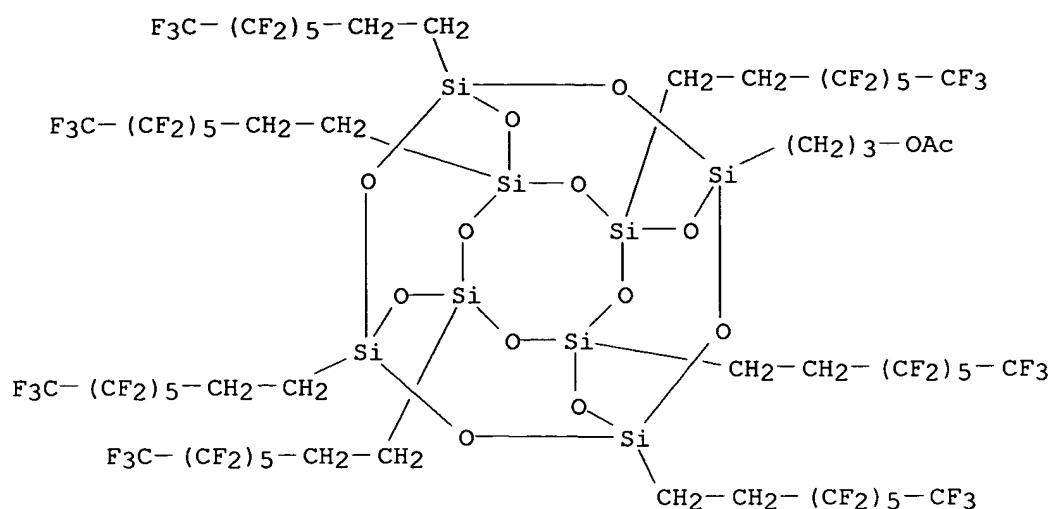
RN 757199-40-9 CAPLUS

CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxaneethanol,  
3,5,7,9,11,13,15-heptakis(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluoroctyl)-,  
acetate (9CI) (CA INDEX NAME)

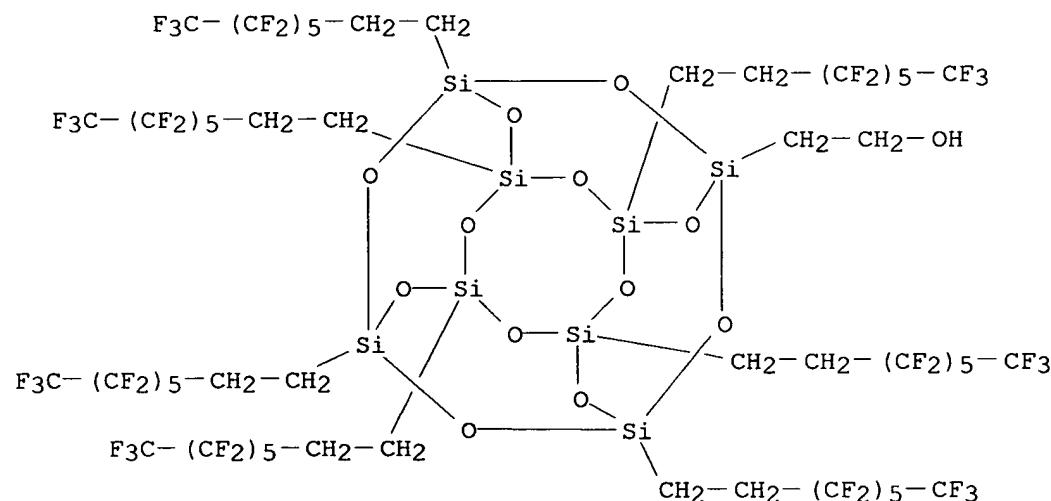


RN 757199-42-1 CAPLUS

CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxanepropanol,  
3,5,7,9,11,13,15-heptakis(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluoroctyl)-,  
acetate (9CI) (CA INDEX NAME)

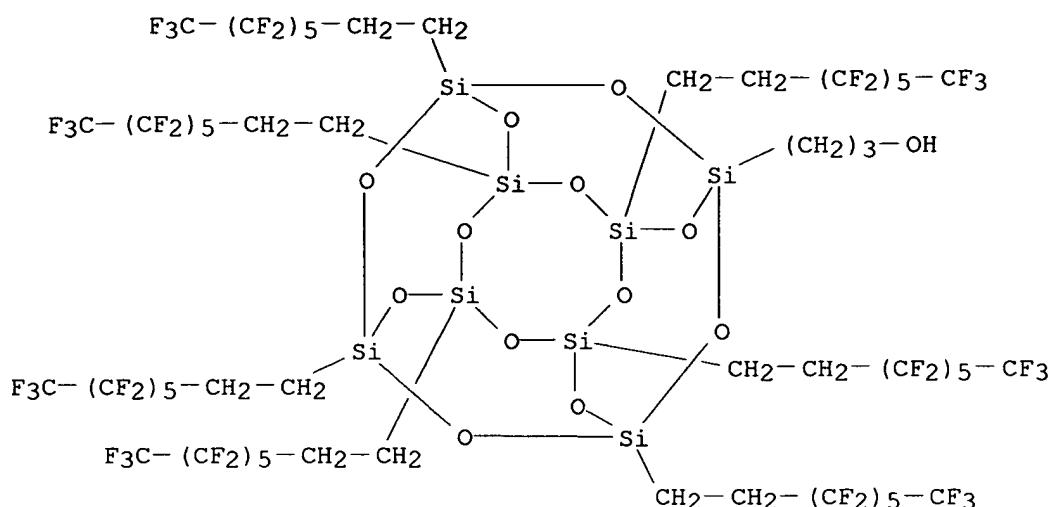


RN 757199-44-3 CAPLUS

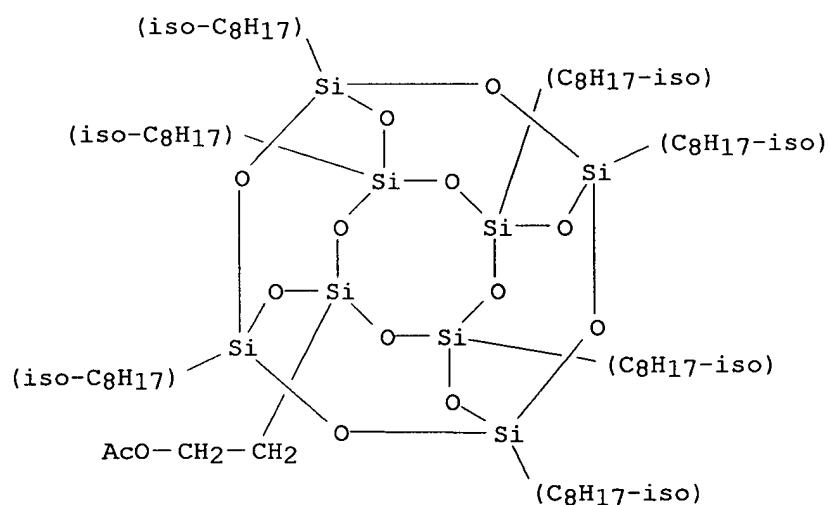
CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxaneethanol,  
3,5,7,9,11,13,15-heptakis(3,3,4,4,5,5,6,6,7,7,8,8-tridecafluorooctyl)-  
(9CI) (CA INDEX NAME)

RN 757199-46-5 CAPLUS

CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxanepropanol,  
3,5,7,9,11,13,15-heptakis(3,3,4,4,5,5,6,6,7,7,8,8-tridecafluorooctyl)-  
(9CI) (CA INDEX NAME)



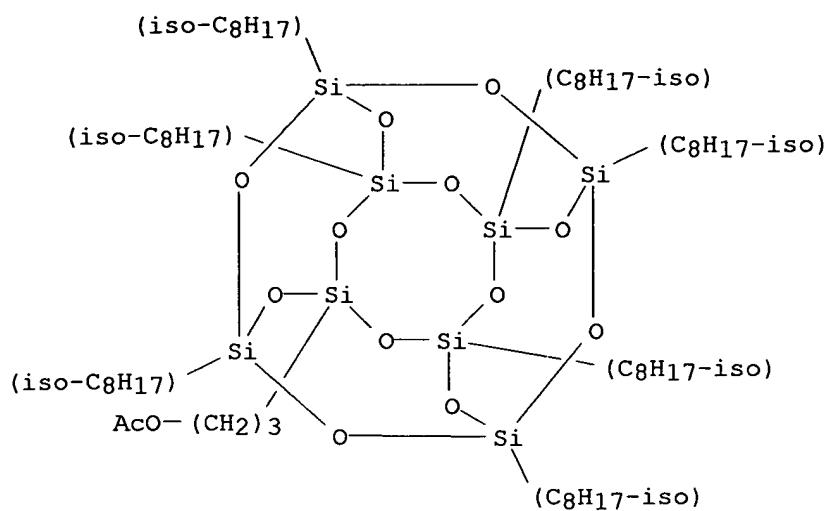
RN 757212-06-9 CAPLUS

CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxaneethanol,  
3,5,7,9,11,13,15-heptaisooctyl-, acetate (9CI) (CA INDEX NAME)

RN 757212-07-0 CAPLUS

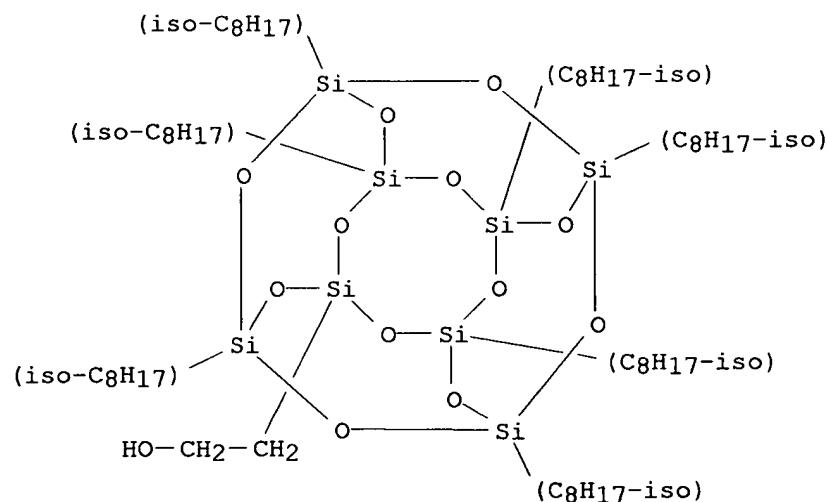
CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxanepropanol,  
3,5,7,9,11,13,15-heptaisooctyl-, acetate (9CI) (CA INDEX NAME)

CAS ONLINE PRINTOUT



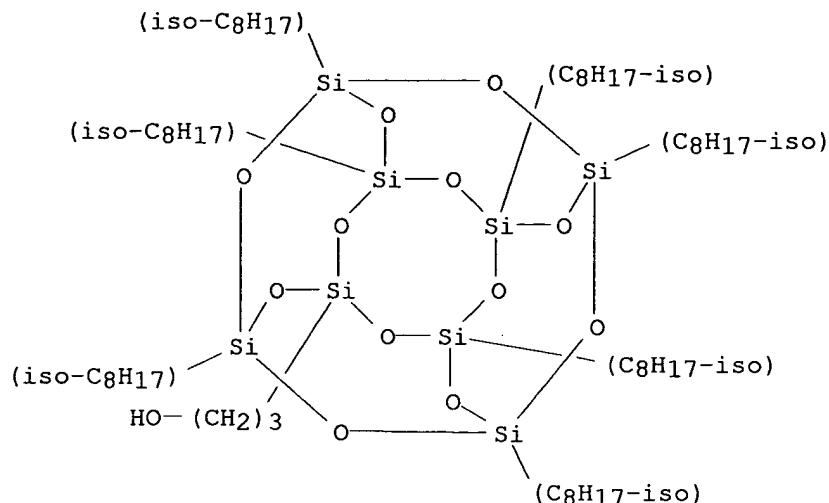
RN 757212-08-1 CAPLUS

CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxaneethanol,  
3,5,7,9,11,13,15-heptaisooctyl- (9CI) (CA INDEX NAME)



RN 757212-09-2 CAPLUS

CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxanepropanol,  
3,5,7,9,11,13,15-heptaisooctyl- (9CI) (CA INDEX NAME)



RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2003:570095 CAPLUS  
 DN 140:365500  
 TI Fluoropolymer resists for 157 nm lithography  
 AU Vohra, Vaishali R.; Liu, Xiang-Qian; Douki, Katsuji; Ober, Christopher K.; Conley, Will; Zimmerman, Paul; Miller, Daniel  
 CS Department of Materials Science & Engineering, Cornell Univ., Ithaca, NY, 14853, USA  
 SO Proceedings of SPIE-The International Society for Optical Engineering (2003), 5039(Pt. 1, Advances in Resist Technology and Processing XX), June, 2003, 539-547  
 CODEN: PSISDG; ISSN: 0277-786X  
 PB SPIE-The International Society for Optical Engineering  
 DT Journal  
 LA English  
 AB Fluoropolymers have been shown to be one of the best materials for high transparency of 157 nm wavelength radiation. Both resists and pellicles are being designed from such materials. One of the authors approaches to improved transparency for 157 nm resists is based upon fluorinated variations of polymethacrylate and polyhydroxystyrene derivs. Lithog. studies were carried out on exptl. resist platforms using 157 and 248 nm steppers, and it was shown that, after selective modification, it is possible to use conventional resist backbones, such as acrylic or styrenic, in the design of single-layer resists for 157 nm lithog. It has been demonstrated in the authors studies that 157 nm absorbance of these materials can be as low as 1.5-2.0 μm<sup>-1</sup>. Another approach to 157 nm resist design is based upon fluorinated backbone variations. Research will be described focusing on several new monomers having fluorine functions such as -F and -CF<sub>3</sub> groups near a polymerizable double bond to improve transparency at 157 nm and to raise the resist glass transition temperature compared to their hydrocarbon analogs. Due to the lower electron d. of the double bond, these monomers can be copolymd. with electron-rich vinyl monomers. As an extension to this strategy, the authors are synthesizing novel fluoropolymers having partially fluorinated monocyclic structures with radical cyclo-polymerization These polymers have the C-F bond on

CAS ONLINE PRINTOUT

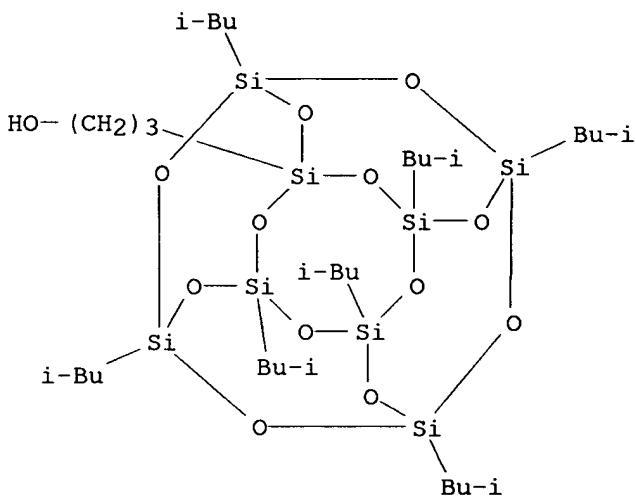
the polymer main chain and also possess acid labile groups as part of a ring structure to eliminate degassing. In order to further enhance the transparency of these systolic polymers at 157 nm, we have eliminated the carbonyl group. The cyclic nature of the polymer will result in a high glass transition temperature

IT **681235-70-1P**

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(design and properties of fluoropolymers for single-layer chemical amplification photoresist formulations for 157 nm exposures)

RN 681235-70-1 CAPLUS

CN Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxanopropanol,  
3,5,7,9,11,13,15-heptakis(2-methylpropyl)- (9CI) (CA INDEX NAME)

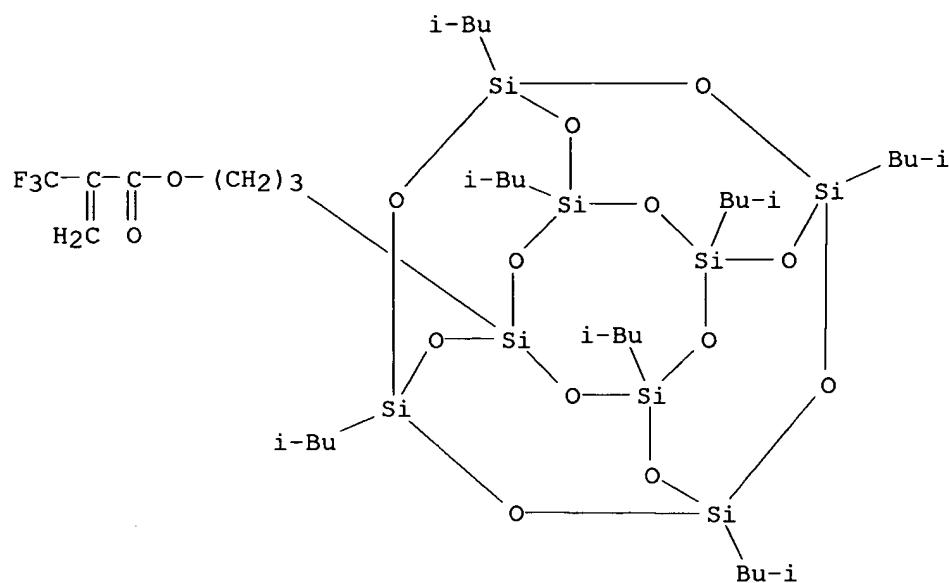


IT **681235-60-9P 681235-66-5P**

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);  
**RACT (Reactant or reagent)**  
(monomer; design of fluoropolymers for single-layer chemical amplification photoresists for 157 nm lithog.)

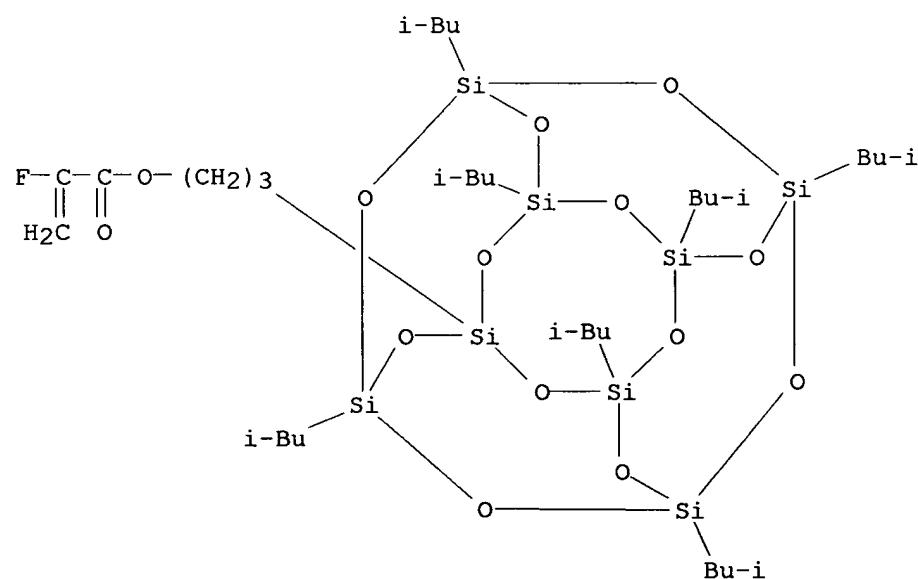
RN 681235-60-9 CAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 3-[heptakis(2-methylpropyl)pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxanyl]propyl ester (9CI) (CA INDEX NAME)



RN 681235-66-5 CAPLUS

CN 2-Propenoic acid, 2-fluoro-, 3-[heptakis(2-methylpropyl)pentacyclo[9.5.1.1.3,9.15,15.17,13]octasiloxanyl]propyl ester (9CI) (CA INDEX NAME)

RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=&gt;